

Title (en)
COMPARATOR, AD CONVERTER, SOLID STATE IMAGING DEVICE, ELECTRONIC APPARATUS, AND COMPARATOR CONTROL METHOD

Title (de)
KOMPARATOR, AD-WANDLER, FESTKÖRPERBILDGEBUNGSVORRICHTUNG, ELEKTRONISCHE VORRICHTUNG UND
KOMPARATORSTEUERUNGSVERFAHREN

Title (fr)
COMPARATEUR, CONVERTISSEUR A/N, DISPOSITIF D'IMAGERIE À SEMI-CONDUCTEURS, APPAREIL ÉLECTRONIQUE, ET PROCÉDÉ DE
COMMANDE DE COMPARATEUR

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Application
EP 17843386 A 20170808

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Abstract (en)
The present disclosure relates to a comparator, an AD converter, a solid-state imaging apparatus, an electronic apparatus, and a method of controlling a comparator each of which enables power consumption to be reduced while a decision speed of the comparator is enhanced. A comparator, including: a differential input circuit operating at a first power source voltage, and outputting a signal when a voltage of an input signal is higher than a voltage of a reference signal; a positive feedback circuit operating at a second power source voltage lower than the first power source voltage, and speeding up a transition speed when a comparison result signal representing a result of comparison in voltage between the input signal and the reference signal is inverted on the basis of an output signal from the differential input circuit; and a voltage converting circuit converting the output signal from the differential input circuit into a signal corresponding to the second power source voltage, in which a source voltage of the differential input circuit is a voltage lower than 0 V. The present disclosure, for example, can be applied to an ADC or the like which is arranged for each pixel of a solid-state imaging apparatus.

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Cited by
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